

REMARKS/ARGUMENTS

Rejection of Claims 1, 14, 25, 36, and 47 under 35 U.S.C. 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5

Claims 1, 14, 25, and 47 are canceled and are no longer in need of consideration and claim 36 is amended to overcome the above rejection. Claim 36 recites a plurality of conductive plugs disposed in the second dielectric layer for connecting the fuse and the metal structure. Applicant asserts that the amended claim 36 now clearly defines and distinctly points out the subject which is claimed as the applicant's invention.

10

Rejection of Claims 1 and 14 under 35 U.S.C. 102(e) as being anticipated by Carroll et al (US Patent No. 6,356,496).

15

Claims 1 and 14 are canceled and are no longer in need of consideration.

Rejection of Claims 1 and 14 under 35 U.S.C. 102(b) as being anticipated by Morozumi et al (US Patent No. 6,194,304).

20

Claims 1 and 14 are canceled and are no longer in need of consideration.

Rejection of Claims 1-7, 9-18, 20-29, 31-40, and 42-62 under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (Admission), in view of U.S. Patent No. 6,375,159 to Daubenspeck et al.

25

Claims 1-7, 9-18, 20-29, 31-35, 47-60, and 62 are canceled and are no longer in need of consideration. Claim 36 is amended to overcome the above rejection. The amended claim 36 recites a fuse structure having a substrate, a first dielectric layer disposed on the substrate, at least a metal structure disposed in the first dielectric layer, a second dielectric layer disposed on the first dielectric layer and the metal structure, at least a fuse having a thin portion and a thick portion disposed on the second dielectric layer, a plurality of conductive plugs disposed in the second dielectric layer for connecting the fuse and the metal structure, a third dielectric layer disposed on the second dielectric layer and covering the thick portion of the fuse, a first opening in the third dielectric layer for exposing the thin portion of the fuse, and a fourth dielectric layer disposed on the third dielectric layer that covers the thin portion of the fuse.

Inspection of Fig. 3a/b of the cited reference will reveal that Daubenspeck et al also disclose a fuse structure having two dielectric layers disposed on a fuse, in which the fuse containing a thick portion and a thin portion. Specifically, the bottom layer of the two dielectric layers, such as the dielectric layer 26 is only disposed on the thin portion of the fuse, whereas the other dielectric layer 28 covering the dielectric layer 26 is disposed on both the thin portion and the thick portion of the fuse.

Applicant asserts that the dielectric layers of the fuse structure of the present invention are stacked in a manner significantly different from the one disclosed in the cited reference. Inspection of Fig. 2 of the present invention will reveal that the bottom layer of the two dielectric layers covering the fuse, such as the dielectric layer 122 is only disposed on the thick portion of the fuse, whereas the top layer, such as the dielectric layer 128 covering the dielectric layer 122 is disposed on the thin portion of the fuse.

Since the feature of disposing a first dielectric layer on the thick portion of the fuse

and disposing a second dielectric on the first dielectric layer that covers the thin portion of the fuse is absent in the cited reference, applicant asserts that the fuse structure disclosed by Daubenspeck et al cannot be combined with the admitted prior art of the present invention. Reconsideration of claim 36 is respectfully requested. As claims
5 37-40, 42-46, and 61 are dependent upon claim 36, applicant asserts that if claim 36 is found allowable, claims 37-40, 42-46, and 61 should additionally be found allowable. Reconsideration of claims 37-40, 42-46, and 61 is politely requested.

10 **Rejection of Claim 36 under 35 U.S.C. 103(a) as being unpatentable over admitted prior art (Admission), in view of U.S. Patent No. 6,175,145 to Lee et al.**

Claim 36 is amended to overcome the above rejection. The amended claim 36 recites a fuse structure having a substrate, a first dielectric layer disposed on the substrate,
15 at least a metal structure disposed in the first dielectric layer, a second dielectric layer disposed on the first dielectric layer and the metal structure, at least a fuse having a thin portion and a thick portion disposed on the second dielectric layer, a plurality of conductive plugs disposed in the second dielectric layer for connecting the fuse and the metal structure, a third dielectric layer disposed on the second dielectric layer and
20 covering the thick portion of the fuse, a first opening in the third dielectric layer for exposing the thin portion of the fuse, and a fourth dielectric layer disposed on the third dielectric layer that covers the thin portion of the fuse.

Inspection of Fig. 2 and Fig. 5 of the cited reference will reveal that Lee et al teach a
25 metal layer structure having a conductor disposed on a dielectric layer 15, in which the conductor includes a thick portion and a thin portion. Despite Lee et al disclose a dielectric layer 35 disposed on the dielectric layer 15 that cover the thick portion of the conductor, Lee et al fail to disclose another dielectric layer disposed on the dielectric

layer 35 that covers the thin portion of the conductor.

Applicant asserts that the dielectric layers of the fuse structure of the present invention are stacked in a manner significantly different from the one disclosed in the
5 cited reference. Inspection of Fig. 2 of the present invention will reveal that the bottom layer of the two dielectric layers covering the fuse, such as the dielectric layer 122 is only disposed on the thick portion of the fuse, whereas the top layer, such as the dielectric layer 128 covering the dielectric layer 122 is disposed on the thin portion of the fuse.

10 Since the feature of disposing a first dielectric layer on the thick portion of the fuse and disposing a second dielectric on the first dielectric layer that covers the thin portion of the fuse is absent in the cited reference, applicant asserts that the metal layer structure disclosed by Lee et al cannot be combined with the admitted prior art of the present invention. Reconsideration of claim 36 is respectfully requested.

15

Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

20

25

Appl. No. 10/711,790
Amdt. dated July 06, 2007
Reply to Office action of April 18, 2007

Sincerely yours,

Winston Hsu

Date: 07.06.2007

Winston Hsu, Patent Agent No. 41,526

5 P.O. BOX 506, Merrifield, VA 22116, U.S.A.

Voice Mail: 302-729-1562

Facsimile: 806-498-6673

e-mail : winstonhsu@naipo.com

- 10 Note: Please leave a message in my voice mail if you need to talk to me. (The time in D.C. is 12 hours behind the Taiwan time, i.e. 9 AM in D.C. = 9 PM in Taiwan.)